



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appl. No. : 10/520,109 Confirmation No. 9548  
Applicant : Norbert BREUER et al.  
Filed : January 3, 2005  
TC/A.U. : 3748  
Examiner : D. Tran  
  
Docket No. : R.303095  
Customer No. : 02119

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Date: May 21, 2008

**APPELLANT'S REPLY BRIEF (37 CFR 41.41)**

Sir:

This Reply Brief is filed in response to the Examiner's Answer mailed on March 21, 2008.

**Rejection of claims 20-22, 31-39 and 41 under 35 U.S.C. 103(a)**

Independent claim 20 is directed to a method for purifying the exhaust gas stream in the exhaust gas line of an internal combustion engine comprising the steps of

**“effecting a continuous enrichment of the exhaust gas stream with ozone, measuring at least one of the temperature of the exhaust gas and the particle content of the exhaust gas downstream of the enriching, and **controlling the concentration of the ozone** essentially as a function of at least one of the temperature and the particle content of the exhaust gas, such that the remaining particle content of the exhaust gas stream does not exceed a predetermined limit value.”**

On page 7 of the Examiner's Answer, the examiner states that:

Birckigt discloses controlling plasma power generation in the exhaust gas as a function of at least one of temperature and the particle content of the exhaust gas . . . . Since Birckigt discloses the same means of generating ozone as defined in the specification of the pending application (i.e. ozone generation can be done by a plasma generation) and electric discharge in a plasma power generation by Birckigt splits molecules in exhaust gas including oxygen to produce ozone, it is obvious that Birckigt produces ozone.

In other words, it is the examiner's finding that the system/method disclosed by Birckigt inherently introduces some ozone into the exhaust gas stream. This is a fundamental error in fact finding by the examiner. In col. 6, ll. 3-47, Birckigt summarizes the theory behind his invention. He teaches therein that his disclosed method reduces the level of particulate emissions based on the following assumptions: To ensure efficient breakdown by oxidation, the particulates have to be collected on surfaces. This is most reliably ensured by the particulate filters which are known. Oxidation which is effective even at low temperature without the addition of catalytic additives can only be achieved by oxidizing free radicals (e.g.,  $O_2 + e \rightarrow O + O + e$ ) which are formed in the immediate vicinity of the surface. He goes on to teach that "[t]his can be induced with a good level of efficiency by electron collisions for example with oxygen in a **non-thermal plasma**" (emphasis added). The equations (2), (2a), (3) and (4) found in col. 6 show the chemical reaction between the "oxidizing free radicals" and the particulates. It can be seen that no ozone ( $O_3$ ) is involved in the system/method disclosed by Birckigt. Thus, the examiner's finding that "Birckigt splits molecules in exhaust gas including oxygen to produce ozone" has no support whatsoever in

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Birckigt. Birckigt does not disclose any means for generating ozone, much less the same means as that disclosed by the appellant.

Rejection of claims 24-29 and 40 under 35 U.S.C. 103(a)

It now appears that the examiner has withdrawn the rejection of claims 24-29 and 40, because on page 2 of the Examiner's Answer, in the "Status of the Claims" section, the examiner indicates that claims 24-29 and 40 would be allowable, if rewritten in independent form. This is the first indication that claims 24-29 and 40 contain allowable subject matter. In view of the examiner's indication of allowable subject matter, an amendment has been filed with this rely brief rewriting claim 40 in independent form. It is now understood that claims 24-29 and 40 are in allowable condition.

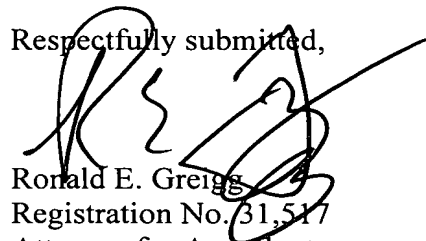
At the same time, the examiner has repeated the ground of rejection of claims 24-29 and 40 at page 5 of the Examiner's Answer. In view of the statement on page 2 of the Answer that claims 24-29 and 40 contain allowable subject matter, the inclusion of the rejection of claims 24-29 and 40 on page 5 is believed to be an inadvertent error by the examiner. It is hoped that the actual status of claims 24-29 and 40 will be resolved by the examiner, and the appellants so informed, prior to forwarding the application to the Board.

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Conclusion

For the reasons stated in the Appeal Brief and above, the appellants request that the Examiner's rejection of the claims be reversed.

Respectfully submitted,



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